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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,608	09/15/2003	John Ferdinand Sisto	TEK03-1002	3547

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EXAMINER	
WILSON, ROBERT W	
ART UNIT	**PAPER NUMBER**
2616	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/663,608	SISTO ET AL.	
	Examiner	Art Unit	
	Robert W. Wilson	2616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *15 September 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-42* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,4,6,8-11,15,17,18,20,22-25 and 29-42* is/are rejected.

7)☒ Claim(s) *2,5,7,12-14,16,19,21 and 26-28* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *9/15/03* is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/17/03*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Claim Objections

1. Claims 2, 5, 7, 12-14, 16, 19, 21, & 26-28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 29-42 are rejected under 35 U.S.C. 101 because they are not statutory.

Referring to claims 29-42, on page 8 Para [0036] of the applicants specification has defined the computer readable medium as instructions which are embodied in a signal. Signals are not statutory; therefore, claims 29-42 are not statutory.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims 1, 3-4, 6, 9, 15, 17-18, 20, 29, 31-32, 34, & 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glade (U.S. Patent No.: 6,643,290) in view of Schultz (U.S. Patent No.: 5,440,716).

Referring to claim 1, Glade teaches: a method for dynamically allocating upstream bandwidth (available resource per col. 20-26) in a passive optical network (col. 1 lines 19) that includes a central node (OLT per Fig) and at least one remote node (NT subscript per Fig) wherein each remote node (NT subscript per Fig) is coupled to at least one logical entity corresponding to a device or user (connected to KE subscript or logical entity corresponding to a device or user per

Fig)that transmits upstream data (VL subscript carried inherent upstream data) to the central node (OLT per Fig) and receives downstream data from the central node (VL subscript carries inherent downstream traffic to OLT per Fig) and wherein the shared out-going uplink coupled the central node (OLT per Fig) to an external network outside of the passive Optical network (OKN per Fig is external network outside of PON) the method comprising:

Receiving a request from a remote node for grant to transmit upstream data from a logical entity associated with the remote node to the central node (OLT (central node) receives a setup or request (col. 1 line 33 or col. 4 line 65from the NT subscript (remote node) for grant (col. 1 line 34) to transmit upstream data from a logical entity (KE subscript) per Fig) and wherein the size of the data to be transmitted does not exceed a transmission threshold assigned to that logical entity (The data to be transmitted does not exceed QoS values or threshold associated with KE subscript and Traffic type per col. 2 lines 20 to 64)

If the request satisfies a bandwidth allocation policy issuing a grant to the remote node (OLT issues a grant per col. 1 line 34 if the request for resources (col. 1 lines 33 to 35) for connection admission control if the resources are within the QoS or policy per col. 2 lines 30 to 64)

In response to the grant receiving upstream data from the remote node (upstream data from the NT subscript (remote node) flows upon receipt of grant per col. 1 lines 33 to 35)

Transmitting the received upstream data to the out-going uplink according to a set of service level agreements (The upstream data is transmitted form the NT subscript to the OLT based upon QoS or SLA per col. 1 lines 16 to col. 2 lines 64)

Glade does not expressly call for: a logical entity may not request more than what is allowed by the corresponding transmission threshold

Schultz teaches: a logical entity may not request more than what is allowed by the corresponding transmission threshold (request may not exceed a predefined maximum per col. 31 lines 34 to 40)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the logical entity may not request more than what is allowed by the corresponding transmission threshold of Schultz to the system of Glade in order to insure that the system does not lock up because a request is made for more resources than are physically possible.

In addition Glade teaches:

Regarding claim 3, wherein prior to transmitting the received upstream data to the out-going uplink the received upstream data is stored in a receiver buffer within the central node (CBR, VBR, and UBR (upstream data) to outgoing uplink (LWL) is stored in RAM or receiver buffer in OLT per Fig)

Wherein the receiver buffer includes a number of FIFO queues, each of which buffers upstream data from an associated logical entity (RAM or receiver buffer has a FIFO queue for CBR, VBR, and UBR respectively associated with KE subscript (logical entity)) and

Wherein transmitting the received upstream data involves retrieving and transmitting the upstream data stored in the receiver buffer to an out-going uplink according to a set of service level agreements (upstream data which is CBR. VBR, and UBR is stored in the RAM or receiver buffer prior to going out LWL outgoing link based upon QoS and therefore is transmitted according to QoS or SLA)

Regarding claim 4, wherein satisfying the bandwidth allocation policy requires that:
There is a sufficient available space in the receiver buffer to accommodate the upstream data to be transmitted as requested (The QoS or SLA or policy is controlled by the ZSE which inherently limits the amount of CBR, VBR, and UBR traffic based upon buffer available in RAM) and

The logical entity from which upstream data transmission is requested is schedule to transmit data next (The CBR, VBR, and UBR traffic each from a logical entity are stored in the queue in order of what is to be scheduled next)

Regarding claim 6, wherein the logical entities within the passive optical network are scheduled to transmit upstream data using a strict priority scheduling scheme (The KE subscript (logical entities) traffic (CBR, VBR, or UBR) within the PON (col. 1 line 19) is scheduled by ZSE to be transmitted based upon QoS or strict priority scheduling scheme)

Regarding claim 9, wherein each remote node includes a number of queue, each of which is associated with a logical entity and stores upstream data from the device or user associated with that logical entity (NT subscript have buffers for storing payloads associated with CBR, VBR, and UBR traffic per col. 6 line 33 to 67)

Referring to claim 15, Glade teaches: an apparatus (Fig) that dynamically allocating upstream bandwidth (available resource per col. 20-26) in a passive optical network (col. 1 lines 19) comprising:

A central node (OLT per Fig);

at least one remote node (NT subscript per Fig) wherein each remote node (NT subscript per Fig) is coupled to at least one logical entity corresponding to a device or user (connected to KE subscript or logical entity corresponding to a device or user per Fig)that transmits upstream data (VL subscript carried inherent upstream data) to the central node (OLT per Fig) and receives downstream data from the central node (VL subscript carries inherent downstream traffic to OLT per Fig) and wherein the shared out-going uplink coupled the central node (OLT per Fig) to an external network outside of the passive Optical network (OKN per Fig is external network outside of PON) the method comprising:

a dynamic bandwidth allocation mechanism within the central node configured to (ZSE (dynamic bandwidth allocation mechanism) within OLT (central node) per Fig)

Receive a request from a remote node for grant to transmit upstream data from a logical entity associated to the remote node to the central node (OLT (central node) receives a setup or request (col. 1 line 33 or col. 4 line 65from the NT subscript (remote node) for grant (col. 1 line 34) to transmit upstream data from a logical entity (KE subscript) per Fig) and wherein the size of the data to be transmitted does not exceed a transmission threshold assigned to that logical entity (The data to be transmitted does not exceed QoS values or threshold associated with KE subscript and Traffic type per col. 2 lines 20 to 64)

If the request satisfies a bandwidth allocation policy issuing a grant to the remote node (OLT issues a grant per col. 1 line 34 if the request for resources (col. 1 lines 33 to 35) for connection admission control if the resources are within the QoS or policy per col. 2 lines 30 to 64) a receiving mechanism configured to receive upstream data from the remote node in response to the grant (RAM per Fig receives upstream data from NT subscript (remote node) in response to the grant (col. 1 line 34)

A bandwidth shaping mechanism configured to transmit the received upstream data to the out-going uplink according to a set of service level agreements(OLT has ZSE which stored upstream data in RAM based upon QoS (SLA) for transmission to OKN via time slot tr subscript per Fig or bandwidth shaping mechanism)

Glade does not expressly call for: a logical entity may not request more than what is allowed by the corresponding transmission threshold

Schultz teaches: a logical entity may not request more than what is allowed by the corresponding transmission threshold (request may not exceed a predefined maximum per col. 31 lines 34 to 40)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the logical entity may not request more than what is allowed by the corresponding transmission threshold of Schultz to the system of Glade in order to insure that the system does not lock up because a request is made for more resources than are physically possible.

In addition Glade teaches:

Regarding claim 17, wherein prior to transmitting the received upstream data to the out-going uplink the received upstream data is stored in a receiver buffer within the central node (CBR, VBR, and UBR (upstream data) to outgoing uplink (LWL) is stored in RAM or receiver buffer in OLT per Fig)

Wherein the receiver buffer includes a number of FIFO queues, each of which buffers upstream data from an associated logical entity (RAM or receiver buffer has a FIFO queue for CBR, VBR, and UBR respectively associated with KE subscript (logical entity)) and

Wherein transmitting the received upstream data involves retrieving and transmitting the upstream data stored in the receiver buffer to an out-going uplink according to a set of service level agreements (upstream data which is CBR. VBR, and UBR is stored in the RAM or receiver buffer prior to going out LWL outgoing link based upon QoS and therefore is transmitted according to QoS or SLA)

Regarding claim 18, wherein satisfying the bandwidth allocation policy requires that:
There is a sufficient available space in the receiver buffer to accommodate the upstream data to be transmitted as requested (The QoS or SLA or policy is controlled by the ZSE which inherently limits the amount of CBR, VBR, and UBR traffic based upon buffer available in RAM) and

The logical entity from which upstream data transmission is requested is schedule to transmit data next (The CBR, VBR, and UBR traffic each from a logical entity are stored in the queue in order of what is to be scheduled next)

Regarding claim 20, wherein the logical entities within the passive optical network are scheduled to transmit upstream data using a strict priority scheduling scheme (The KE subscript (logical entities) traffic (CBR, VBR, or UBR) within the PON (col. 1 line 19) is scheduled by ZSE to be transmitted based upon QoS or strict priority scheduling scheme)

Referring to claim 29, Glade teaches: a computer readable storage medium (PROM is ZSE per Fig) for storing instructions when executed by a computer (ZSE per Fig) cause the computer to perform a method for dynamically allocating upstream bandwidth (available resource per col. 20-26) in a passive optical network (col. 1 lines 19) that includes a central node (OLT per Fig) and at least one remote node (NT subscript per Fig) wherein each remote node (NT subscript per Fig) is coupled to at least one logical entity corresponding to a device or user (connected to KE subscript or logical entity corresponding to a device or user per Fig)that transmits upstream data (VL subscript carried inherent upstream data) to the central node (OLT per Fig) and receives downstream data from the central node (VL subscript carries inherent downstream traffic to OLT per Fig) and wherein the shared out-going uplink coupled the central node (OLT per Fig) to an external network outside of the passive Optical network (OKN per Fig is external network outside of PON) the method comprising:

Receiving a request from a remote node for grant to transmit upstream data from a logical entity associated with the remote node to the central node (OLT (central node) receives a setup or request (col. 1 line 33 or col. 4 line 65 from the NT subscript (remote node) for grant (col. 1 line 34) to transmit upstream data from a logical entity (KE subscript) per Fig) and wherein the size of the data to be transmitted does not exceed a transmission threshold assigned to that logical

entity (The data to be transmitted does not exceed QoS values or threshold associated with KE subscript and Traffic type per col. 2 lines 20 to 64)

If the request satisfies a bandwidth allocation policy issuing a grant to the remote node (OLT issues a grant per col. 1 line 34 if the request for resources (col. 1 lines 33 to 35) for connection admission control if the resources are within the QoS or policy per col. 2 lines 30 to 64)

In response to the grant receiving upstream data from the remote node (upstream data from the NT subscript (remote node) flows upon receipt of grant per col. 1 lines 33 to 35)

Transmitting the received upstream data to the out-going uplink according to a set of service level agreements (The upstream data is transmitted form the NT subscript to the OLT based upon QoS or SLA per col. 1 lines 16 to col. 2 lines 64)

Glade does not expressly call for: a logical entity may not request more than what is allowed by the corresponding transmission threshold

Schultz teaches: a logical entity may not request more than what is allowed by the corresponding transmission threshold (request may not exceed a predefined maximum per col. 31 lines 34 to 40)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the logical entity may not request more than what is allowed by the corresponding transmission threshold of Schultz to the system of Glade in order to insure that the system does not lock up because a request is made for more resources than are physically possible.

In addition Glade teaches:

Regarding claim 31, wherein prior to transmitting the received upstream data to the out-going uplink the received upstream data is stored in a receiver buffer within the central node (CBR, VBR, and UBR (upstream data) to outgoing uplink (LWL) is stored in RAM or receiver buffer in OLT per Fig)

Wherein the receiver buffer includes a number of FIFO queues, each of which buffers upstream data from an associated logical entity (RAM or receiver buffer has a FIFO queue for CBR, VBR, and UBR respectively associated with KE subscript (logical entity)) and

Wherein transmitting the received upstream data involves retrieving and transmitting the upstream data stored in the receiver buffer to an out-going uplink according to a set of service level agreements (upstream data which is CBR. VBR, and UBR is stored in the RAM or receiver buffer prior to going out LWL outgoing link based upon QoS and therefore is transmitted according to QoS or SLA)

Regarding claim 32, wherein satisfying the bandwidth allocation policy requires that:

There is a sufficient available space in the receiver buffer to accommodate the upstream data to be transmitted as requested (The QoS or SLA or policy is controlled by the ZSE which inherently limits the amount of CBR, VBR, and UBR traffic based upon buffer available in RAM) and

The logical entity from which upstream data transmission is requested is schedule to transmit data next (The CBR, VBR, and UBR traffic each from a logical entity are stored in the queue in order of what is to be scheduled next)

Regarding claim 34, wherein the logical entities within the passive optical network are scheduled to transmit upstream data using a strict priority scheduling scheme (The KE subscript (logical entities) traffic (CBR, VBR, or UBR) within the PON (col. 1 line 19) is scheduled by ZSE to be transmitted based upon QoS or strict priority scheduling scheme)

Regarding claim 37, wherein each remote node includes a number of queue, each of which is associated with a logical entity and stores upstream data from the device or user associated with that logical entity (NT subscript have buffers for storing payloads associated with CBR, VBR, and UBR traffic per col. 6 line 33 to 67)

5. Claims 8, 22, & 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glade (U.S. Patent No.: 6,643,290) in view of Schultz (U.S. Patent No.: 5,440,716) further in view of Aybay (U.S. Patent No.: 6,185,221)

Referring to claim 8, The combination of Glade and Schultz teach the method of claim 3 and wherein retrieving the transmitted data stored in the buffer to the out-going uplink according to a set of service level agreements involves retrieving and transmitting data stored in each FIFO queue in accordance with each logical entity's service level agreement (Data for outgoing link is stored and retrieved from the appropriate buffer or FIFO based upon SLA associated with KE subscript per Fig)

The combination of Glade and Schultz do not expressly call for: round robin

Aybay teaches: round robin per col. 12 lines 29-55

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the round robin of Aybay to the system of the combination of Glade and Schultz in order in order schedule high throughput packets while adhering to QoS requirements.

Referring to claim 22, The combination of Glade and Schultz teach the apparatus of claim 17 and wherein retrieving the transmitted data stored in the buffer to the out-going uplink according to a

set of service level agreements involves retrieving and transmitting data stored in each FIFO queue in accordance with each logical entity's service level agreement (Data for outgoing link is stored and retrieved from the appropriate buffer or FIFO based upon SLA associated with KE subscript per Fig)

The combination of Glade and Schultz do not expressly call for: round robin

Aybay teaches: round robin per col. 12 lines 29-55

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the round robin of Aybay to the apparatus of the combination of Glade and Schultz in order in order schedule high throughput packets while adhering to QoS requirements.

Referring to claim 36, The combination of Glade and Schultz teach the computer readable storage medium of claim 31 and wherein retrieving the transmitted data stored in the buffer to the out-going uplink according to a set of service level agreements involves retrieving and transmitting data stored in each FIFO queue in accordance with each logical entity's service level agreement (Data for outgoing link is stored and retrieved from the appropriate buffer or FIFO based upon SLA associated with KE subscript per Fig)

The combination of Glade and Schultz do not expressly call for: round robin

Aybay teaches: round robin per col. 12 lines 29-55

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the round robin of Aybay to the system of the combination of Glade and Schultz in order in order schedule high throughput packets while adhering to QoS requirements.

6. Claims 10, 23, & 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glade (U.S. Patent No.: 6,643,290) in view of Schultz (U.S. Patent No.: 5,440,716) further in view of Kramer (U.S. Patent No.: 6,546,014)

Referring to claim 10, the combination of Glade and Schultz teach the method of claim 9

The combination of Glade and Schultz do not expressly call for: wherein the request from a remote node reports the state of queue within that remote node associated with a logical entity and wherein the request piggybacks on an upstream data transmission

Kramer teaches: wherein the request from a remote node reports the state of queue within that remote node associated with a logical entity and wherein the request piggybacks on an upstream data transmission (Upon receipt of a Grant from OLT (central node) to ONU subscript (remote

node) a message is sent or piggybacked in the upstream data transmission specifying the bytes in the ONU subscript (remote node) buffer or state of queue per col. 6 line 16 to 67)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the reporting the status of the queue of the remote node of Kramer to the system of the combination of Glade and Schultz in order to build a system in which informs the central node as to how much more traffic to expect.

Referring to claim 23, the combination of Glade and Schultz teach the apparatus of claim 15

The combination of Glade and Schultz do not expressly call for: wherein the request from a remote node reports the state of queue within that remote node associated with a logical entity and wherein the request piggybacks on an upstream data transmission

Kramer teaches: wherein the request from a remote node reports the state of queue within that remote node associated with a logical entity and wherein the request piggybacks on an upstream data transmission (Upon receipt of a Grant from OLT (central node) to ONU subscript (remote node) a message is sent or piggybacked in the upstream data transmission specifying the bytes in the ONU subscript (remote node) buffer or state of queue per col. 6 line 16 to 67)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the reporting the status of the queue of the remote node of Kramer to the apparatus of the combination of Glade and Schultz in order to build a system in which informs the central node as to how much more traffic to expect.

Referring to claim 38, the combination of Glade and Schultz teach the computer readable medium of claim 37

The combination of Glade and Schultz do not expressly call for: wherein the request from a remote node reports the state of queue within that remote node associated with a logical entity and wherein the request piggybacks on an upstream data transmission

Kramer teaches: wherein the request from a remote node reports the state of queue within that remote node associated with a logical entity and wherein the request piggybacks on an upstream data transmission (Upon receipt of a Grant from OLT (central node) to ONU subscript (remote node) a message is sent or piggybacked in the upstream data transmission specifying the bytes in the ONU subscript (remote node) buffer or state of queue per col. 6 line 16 to 67)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the reporting the status of the queue of the remote node of Kramer to the system of the combination of Glade and Schultz in order to build a system in which informs the central node as to how much more traffic to expect.

7. Claims 11, 25, & 39 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glade (U.S. Patent No.: 6,643,290) in view of Schultz (U.S. Patent No.: 5,440,716) further in view of Moore (U.S. Patent No.: 6,426,944)

Referring to claim 11, the combination of Glade and Schultz teach the method of claim 9 and wherein if a FIFO queue within receiver buffer in the central node is full the issuance of grant to the corresponding logical entity is paused thereby causing the queue associated with the logical entity within a remote node to become full (When the OLT has CBR, VBR, or UBR buffer full it will inherently slow down the grant to the NT subscript (remote node) and the buffer of the remote nodes will inherently fill up per Fig)

The combination of Glade and Schultz do not expressly call for: sending a flow-control message to the corresponding device or user to slow down the upstream data transmission from that device or user

Moore teaches: sending a flow-control message to the corresponding device or user to slow down the upstream data transmission from that device or user (Fig 3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the sending the flow-control message of Moore to the system of Glade and Schultz in order to insure that the system does not get congested.

Referring to claim 25, the combination of Glade and Schultz teach the apparatus of claim 23 and wherein if a FIFO queue within receiver buffer in the central node is full the issuance of grant to the corresponding logical entity is paused thereby causing the queue associated with the logical entity within a remote node to become full (When the OLT has CBR, VBR, or UBR buffer full it will inherently slow down the grant to the NT subscript (remote node) and the buffer of the remote nodes will inherently fill up per Fig)

The combination of Glade and Schultz do not expressly call for: sending a flow-control message to the corresponding device or user to slow down the upstream data transmission from that device or user

Moore teaches: sending a flow-control message to the corresponding device or user to slow down the upstream data transmission from that device or user (Fig 3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the sending the flow-control message of Moore to the apparatus of Glade and Schultz in order to insure that the system does not get congested.

Referring to claim 39, the combination of Glade and Schultz teach: the computer readable medium of claim 37 and wherein if a FIFO queue within receiver buffer in the central node is full the issuance of grant to the corresponding logical entity is paused thereby causing the queue associated with the logical entity within a remote node to become full (When the OLT has CBR, VBR, or UBR buffer full it will inherently slow down the grant to the NT subscript (remote node) and the buffer of the remote nodes will inherently fill up per Fig)

The combination of Glade and Schultz do not expressly call for: sending a flow-control message to the corresponding device or user to slow down the upstream data transmission from that device or user

Moore teaches: sending a flow-control message to the corresponding device or user to slow down the upstream data transmission from that device or user (Fig 3)

It would have been obvious to one of ordinary skill in the art at the time of the invention to add the sending the flow-control message of Moore to the system of Glade and Schultz in order to insure that the system does not get congested.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert W. Wilson whose telephone number is 571/272-3075. The examiner can normally be reached on M-F (8:00-4:30).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Edan Orgad can be reached on 571/272-7884. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Robert W. Wilson

Robert W Wilson
Examiner
Art Unit 2616

RWW
7/6/07